DISCOVERY OF THE RED FLOWERING GUM *CORYMBIA FICIFOLIA* IN THE STIRLING RANGE

By K.L. BROWN, E.J. HICKMAN and T.R. LALLY
Science and Information Division, Department of Conservation and Land Management, Locked Bag 104. Bentley Delivery Centre, 6983.

The biogeography and genetics of *Corymbia ficifolia* (F.Muell) K.D. Hill & L.A.S. Johnson. (Myrtaceae) previously *Eucalyptus* has recently been described by Wardell-Johnson & Coates (1996). The main dist-ribution of this species occurs in a small area between Walpole and Denmark in southern Western Australian. With an average rainfall of between 1200 and 1400 mm, this is the wettest part of the State and these authors suggested that C. *ficifolia* is a relic of a past wetter climatic regime.

Both the main population and a small outlying population at Boulder Hill, 110 km to the east, are restricted to humic podozol soils (Wardell-Johnson & Coates 1996). *Corymbia ficifolia* is known to hybridize with the closely related C. *calophylla* where there is a transition in soil types, with C. *calophylla* typically occurring on heavier soils. Within the area of C. *ficifolia*'s main distribution and at Boulder Hill, hybrids occur on shallow sands over clay (Wardell-Johnson & Coates 1996).

A previously unknown population of C. *ficifolia* (K.L. Brown 54) was recently discovered at the base of the northern slopes of Isongerup Peak in the Stirling Range National Park. The population consists of 16 individuals of C. *ficifolia* and at least two hybrids between C. *calophylla* and C. *ficifolia* (T.R. Lally & K.L. Brown 1377). The plants are 2–3m high resprouts from the 1991 fires. This season (early 1997) appears to be the first year of flowering since the fires as no fruits could be found. Both C. *ficifolia* and the hybrids grow on light brown sandy clays over quartzite on a ridge leading up from the base of the peak. Associated species include *E. marginata, Beaufortia decussata, Agonis parviceps* and *Mesomelaena* sp.

The common white flowering form of *Corymbia calophylla* (T.R. Lally & K.L. Brown 1378) and what appeared to be a pink flowering form (T.R. Lally & K.L. Brown 1380) were also found growing within close proximity, on the same land form and soil type. An individual of C. *ficifolia* resprouting from a trunk 1–2m in diameter was found 500 metres to the east of the main group and a group of the what is presumed to be the pink flowering hybrids were observed to the northeast at the base of the Second Arrow

(approximately 1 km away) indicating that there may be more plants of *C. ficifolia* in the area.

Given that *C. ficifolia* is thought to be a relic from a past wetter climate, it is not surprising that this species occurs in the Stirling Range, 100 km north of its main distribution. The local climate around the ranges is cooler and wetter than surrounding areas due to the orographic effects of the high peaks. Indeed 143 plant species are known to reach their inland limit in the Stirling Range due to the cooler wetter climate while 87 species are known to be endemic, most of these being closely related to species from the wetter regions of the south west (Keighery and Beard 1993, Keighery 1993). Interestingly the population of *C. ficifolia* in the Stirling range occurs on quite different soils from the other two populations indicating that climatic rather than edaphic factors are possibly driving its distribution (*cf.* Wardell-Johnson & Coates 1996).

REFERENCES

KEIGHERY, G.J., 1993. *Mountains of Mystery*, Flora list and synopsis of the flora of the Stirling Range National Park. Department of Conservation and Land Management, Como, W.A

KEIGHERY, G.J. & BEARD, J.S, 1993. Plant Communities. *In: Mountains of Mystery, A natural history of the Stirling Range.* Department of Conservation and Land Management, Como, W.A

WARDELL-JOHNSON, G. and COATES, D., 1996. Links to the past: local endemism in four species of forest eucalypts in southwestern Australia. Pp. 137–154. *In: Gondwanan Heritage* ed by S.D. Hopper, J.A. Chappill, M.S. Harvey and A.S. George. Surrey Beatty and Son, Chipping Norton.